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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,301	07/02/2001	Hiroyuki Tanaka	OKI.249	2399

7590

03/28/2003

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EXAMINER

FENTY, JESSE A

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/895,301

Applicant(s)

TANAKA, HIROYUKI

Examiner

Jesse A. Fenty

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 2815

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/28/03 has been entered.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 20 and 22 recite the limitation "said spacers" in lines 1 of the claims. There is insufficient antecedent basis for this limitation in the claims.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2815

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 17 and 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Son (U.S. Patent No. 6,064,096).

In re claims 19 and 21, Son discloses a semiconductor device, comprising:

A semiconductor substrate (41) having a top surface;

Isolation regions (42) formed in said substrate, and which define active regions;

MOS transistors respectively disposed in said active region, each of said MOS transistors having a gate structure (44), a source region (52, 55), a drain region (opposite) and sidewalls (47, 50) disposed on either side of each of said gate structures;

Wherein each of said source regions has a source lightly doped region (55) and a source heavily doped drain region (52), wherein an impurity concentration of said source lightly doped region is lower than an impurity concentration of said source heavily doped region, wherein the source lightly doped region is formed below one of said sidewalls, and wherein said heavily doped region is disposed between said source lightly doped region and one of said isolation regions;

Wherein each of said drain regions (opposite source) has a drain lightly doped region and a drain heavily doped region, wherein an impurity concentration of said drain lightly doped region is lower than an impurity concentration of said drain heavily doped region, wherein the drain lightly doped region is formed below one of said sidewalls, and wherein said heavily doped drain region is disposed between said drain lightly doped region and said isolation region; and

Metallic silicide layers (53) respectively formed on said source heavily doped regions and said drain heavily doped region, said metallic silicide layers being in contact with said sidewalls

Art Unit: 2815

and said isolation region, wherein undersides of said metallic silicide layers are substantially coplanar with respective undersides of said sidewalls in contact with said top surface.

In re claims 20 and 22, as best understood, Son discloses the devices of claims 19 and 21 respectively, wherein said metal silicide layers are formed between each of said sidewalls and said isolation regions.

In re claims 17 and 23, Son discloses the devices of claims 19 and 21 respectively, wherein in impurity concentration of each of said lightly doped source regions is nearly the same as that of a respective one of said heavily doped source regions, and an impurity concentration of each of said lightly doped drain regions is nearly the same as that of a respective one of said heavily doped drain regions.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 14-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 703-308-8137. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone numbers for the

Application/Control Number: 09/895,301


Page 5


Art Unit: 2815

organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-746-3892 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Jesse A. Fenty  
Examiner  
Art Unit 2815

  
JAF  
March 18, 2003

  
EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
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